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SHORT COMMUNICATIONS

OCCURRENCE OF *BRACHYTHEMIS FUSCOPALLIATA* (SELYS, 1887) IN THE EAST MEDITERRANEAN AREA (ANISOPTERA: *LIBELLULIDAE*)

H.J. DUMONT
Institute of Zoology, University of Ghent, Ledeganckstraat 35, B-9000
Ghent, Belgium

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B. fuscopalliata (Sélys), formerly known only from a number of localities in Iraq (and Iran ?) has now been found in Adana (Turkey) and Hula (Israel). The East Mediterranean populations are probably relicts and in danger of extinction.

HISTORICAL REVIEW

The small libellulid genus *Brachythemis* is represented by two species in the West Palearctic, i.e. *Brachythemis leucosticta* (Burmeister, 1839) and *Brachythemis fuscopalliata* (Sélys, 1887). The former is widely distributed. It abounds in the Eastern Mediterranean, reaching West Turkey, and is found over the whole African continent, including North Africa. It penetrates into Europe on the Iberian Peninsula but has not yet crossed the Pyrenées.

Brachythemis fuscopalliata (Sélys), conversely, was hitherto believed to occupy a very restricted territory. The male types were collected at the "Euphrate inférieur (Mésopotamie)" where they were said to have been captured in January-February (SELYS, 1887). RIS (1911, 1928) states that these specimens were captured at Samava, which should consequently be considered the type locality, by the Swiss explorer A. Schäfli. All subsequent records refer to roughly the same area, i.e. the present Iraq: RIS (1911): Samava (1 ♂), Fao (1 ♂); FRASER (1917): Basra and the swampy Shat-el-Arab near Abadan in March. This author first described the female, supplying good figures of both sexes. Long series first became available to MORTON (1919, 1920), all from the marshy area around Basra, Amara and Qurbah (Iraq). Interesting data on the ethology and habitat selection in this species now became available also. *Brachythe-*

mis fuscopalliata was found to show a neat preference for swampy stretches of slow-running rivers, and swampy areas rich in drainage canals (e.g. the lower Tigris and Euphrates areas). RIS (1928) obtained a short series of specimens taken in April, again at Basra. More recently, SAGE (1960a, 1960b) discovered the species in Eastern Iraq, in the vicinity of the town of Khanaquin, along the banks of the Alwand river, apparently an environment rather similar to those from which this species had been reported earlier. Its flight period, from all data available, appears to extend from January till September, although it might seem that emergence normally does not take place prior to March or April.

As to the occurrence of the species in Iran, no precise data seem to be available. MARTIN (1912) vaguely states "rare espèce trouvée en Perse et en Mésopotamie" but actually did not receive any material from Persia. SCHMIDT (1954), in his review of the dragonflies of Iran, includes *B. fuscopalliata*, but had no new material either. It so appears that the species has never actually been taken on the Iranese territory, although it certainly lives there: such localities as Fao, Abadan, Basra and Khanaquin are so close to the border that one should surely expect *B. fuscopalliata* to live along the river Karun and the swampy lower Bahmanshir river. The true problem is how far to the East the range of *B. fuscopalliata* extends in Iran.

NEW RECORDS

In the course of the year 1972 we had an opportunity to visit Turkey (May) and Israel (June). To our most pleasant surprise, we succeeded in discovering *Brachythemis fuscopalliata* in both countries. Along the mediterranean coast of South-East Turkey, the Peninsula of Adana presents an environment which would seem to be more or less comparable to the Basra-Amara area. Although it is now largely drained, it still presents the following conditions: it is roughly a flat triangle, built up from the alluvium of the Rivers Ceyhan and Göksu. There are numerous marshy pools and humid depressions and the area is rich in drainage canals of variable width. It was on one of these canals, having a diameter of about 20 m that we found a small population of *B. fuscopalliata*. The site is located at the intersection of the canal with the road connecting the cities of Adana and Karatas, at about 20 km from the latter. During the afternoon hours of May 20, 1972, we here observed males perching on aquatic vegetation along the shores at distances of about 100 m. Occasionally, some females were seen but no mating activity was recorded. The flight of the males was extremely rapid and fierce, and only at the cost of much patience and luck could one specimen be captured. It was a not yet fully coloured specimen, perhaps an indication that the emergence period had started only recently. A search for exuviae however remained unsuccessful.

Encouraged by this discovery, we decided to pay special attention to similar

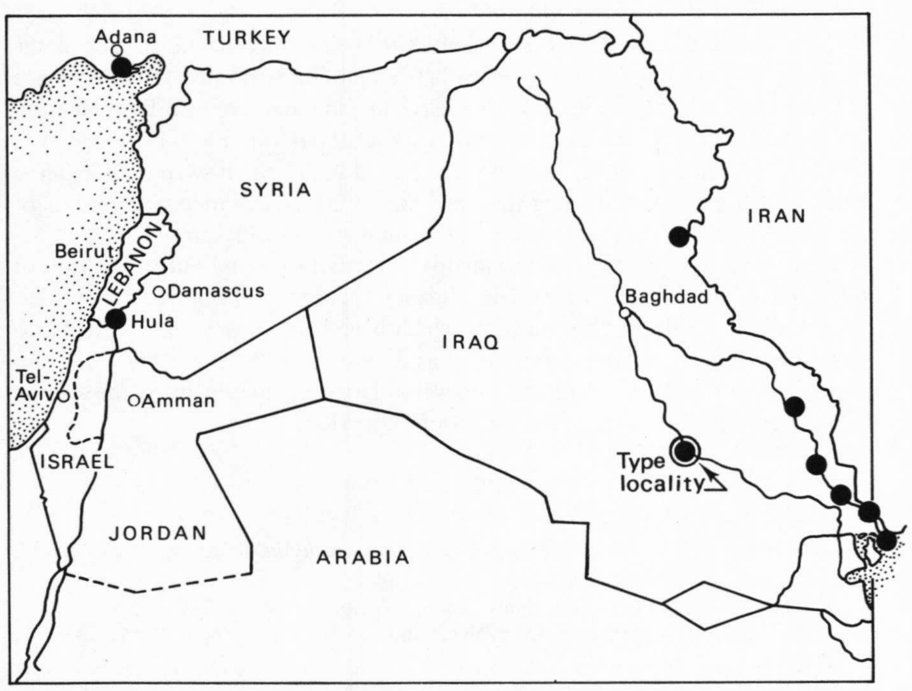

Fig. 1. Distribution of *Brachythemis fuscopalliata* (Sélys).

sites during our subsequent stay in Israel. An area rich in promises appeared to be the famous Hula-lake-system. Lake Hula was a large swampy lake in the North of Israel. It was entirely traversed by the River Jordan.. Unfortunately, during 1953-1957 the major part of this area has been transformed into arable lands. Only part of the former lake was conserved and transformed into a natural preserve. Two subsequent visits to the area (June 22 and 28, 1972) did not lead to any results. Fortunately, some large collections of insects have been made by several naturalists prior to the drainage. In these, we could detect three male specimens of *Brachythemis fuscopalliata*: 1 ♂, "Hula", 30.V.1953, coll. Prof. J. Wahrman, now in the collection of the Institute of Genetics, The Hebrew University of Jerusalem, and 2 more ♂♂, labeled "June 1953" and "Almanya", the latter being some fishponds pertaining to the Hula-lake system, situated close to the town of Hulata. The latter specimens are now in the collection of the Kibbutz Hulata school. As the fishponds mentioned are still in existence, the major changes that may have occurred to them being eutrophication, it is possible that *B. fuscopalliata* still lives there now.

CONCLUSION

We consider it proved that *B. fuscopalliata* is not an endemic species of the Persian Gulf and Iraq. Its commonness here should be attributed to the presence of adequate biotopes only. It is thus also an inhabitant of the East Mediterranean basin, where it lives in at least two localities (cf. Fig. 1), though it is certainly in regression here. During more humid times, when swampy river areas must have been common along the now largely dry and semi-desertic coasts of the middle East, it was surely much more abundant and widespread here.

Human influences, such as reclamation of territories and eutrophication of the remnant water-bodies may have further reduced it during recent decades. Even the two mediterranean stations, which have been or are being turned into agricultural areas, should be considered as temporary ones: if the present evolution in these localities continues to develop along its present lines, the species must be considered here in grave danger of extinction.

REFERENCES

FRASER, F.C., 1917. The female of the dragonfly *Brachythemis fuscopalliata* (Ris). J. Bombay nat. Hist. Soc. 25: 282-283.

MARTIN, R., 1912. Les Odonates. Annls Hist. nat. Délég. Perse 2 (1): 5-9.

MORTON, K.J., 1919. Odonata from Mesopotamia. Ent. Mo. Mag., III, 5: 143-151; 183-196.

MORTON, K.J., 1920. Odonata collected in Mesopotamia by the late Major R. Brewitt-Taylor, R.A.M.C. Ann. Mag. nat. Hist., IX, 5: 293-303.

RIS, F., 1911. Libellulinen monographisch bearbeitet. V. Collns zool. de Sélys Longchamps 13: 529-700.

RIS, F., 1928. Zur Erforschung des Persischen Golfes. Libellen (Odonaten). Wiener ent. Z., 44: 155-164.

SAGE, B.L., 1960a. Notes on the Odonata of Iraq. Entomologist 93: 117-125.

SAGE, B.L., 1960b. Notes on the Odonata of Iraq. Iraq nat. Hist. Mus. Publ. 18: 1-11.

SCHMIDT, E., 1954. Die Libellen Irans. Sber. öst. Akad. Wiss. I, 163: 223-260.

SELYS LONGCHAMPS, E. de, 1887. Odonates de l'Asie Mineure et révision de ceux des autres parties de la faune dite européenne. Ann. Soc. ent. Belg. 31: 1-85.